



1/10

SEQUENCE LISTING

<110> Hellman, Lars T.

<120> ENHANCED VACCINES

<130> 10223/006001

<140> US 09/401,636

<141> 1999-09-22

<150> US 60/106,652

<151> 1998-11-02

<160> 11

<170> FastSEQ for Windows Version 4.0

<210> 1

<211> 331

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetically generated proteins

<400> 1

Asp Asn Lys Thr Phe Ser Val Cys Ser Arg Asp Phe Thr Pro Pro Thr
1 5 10 15
Val Lys Ile Leu Gln Ser Ser Cys Asp Gly Gly Gly His Phe Pro Pro
20 25 30
Thr Ile Gln Leu Leu Cys Leu Val Ser Gly Tyr Thr Pro Gly Thr Ile
35 40 45
Asn Ile Thr Trp Leu Glu Asp Gly Gln Val Met Asp Val Asp Leu Ser
50 55 60
Thr Ala Ser Thr Thr Gln Gly Glu Leu Ala Ser Thr Gln Ser Glu
65 70 75 80
Leu Thr Leu Ser Gln Lys His Trp Leu Ser Asp Arg Thr Tyr Thr Cys
85 90 95
Gln Val Thr Tyr Gln Gly His Thr Phe Glu Asp Ser Thr Lys Lys Cys
100 105 110
Ala Asp Ser Asn Pro Arg Gly Val Ser Ala Tyr Leu Ser Arg Pro Ser
115 120 125
Pro Phe Asp Leu Phe Ile Arg Lys Ser Pro Thr Ile Thr Cys Leu Val
130 135 140
Val Asp Leu Ala Pro Ser Lys Gly Thr Val Asn Leu Thr Trp Ser Arg
145 150 155 160
Ala Ser Gly Lys Pro Val Asn His Ser Thr Arg Lys Glu Glu Lys Gln
165 170 175
Arg Asn Gly Thr Leu Thr Val Thr Ser Thr Leu Pro Val Gly Thr Arg
180 185 190
Asp Trp Ile Glu Gly Glu Thr Tyr Gln Cys Arg Val Thr His Pro His
195 200 205
Leu Pro Arg Ala Leu Met Arg Ser Thr Thr Lys Thr Ser Gly Pro Arg
210 215 220
Ala Ala Pro Glu Val Tyr Ala Phe Ala Thr Pro Glu Trp Pro Gly Ser
225 230 235 240
Arg Asp Lys Arg Thr Leu Ala Cys Leu Ile Gln Asn Phe Met Pro Glu
245 250 255
Asp Ile Ser Val Gln Trp Leu His Asn Glu Val Gln L u Pro Asp Ala
260 265 270

10

[illegible]

<210> 3
 <211> 341
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetically generated proteins

<400> 3
 Glu Phe His His His His His His Thr Leu Ser Leu Pro Glu Ser Gly
 1 5 10 15
 Pro Val Thr Ile Ile Pro Pro Thr Val Lys Leu Phe His Ser Ser Cys
 20 25 30
 Asp Pro Arg Gly Asp Ala His Ser Thr Ile Gln Leu Leu Cys Leu Val
 35 40 45
 Ser Gly Phe Ser Pro Ala Lys Val His Val Thr Trp Leu Val Asp Gly
 50 55 60
 Gln Glu Ala Glu Asn Leu Phe Pro Tyr Thr Thr Arg Pro Lys Arg Glu
 65 70 75 80
 Gly Gly Gln Thr Phe Ser Leu Gln Ser Glu Val Asn Ile Thr Gln Gly
 85 90 95
 Gln Trp Met Ser Ser Asn Thr Tyr Thr Cys His Val Lys His Asn Gly
 100 105 110
 Ser Ile Phe Glu Asp Ser Ala Gln Lys Cys Ser Asp Thr Asp Pro Arg
 115 120 125
 Gly Ile Ser Ala Tyr Ile Leu Pro Pro Thr Pro Gln Asp Leu Phe Val
 130 135 140
 Lys Lys Val Pro Thr Ile Gly Cys Leu Ile Val Asp Leu Ala Ser Ala
 145 150 155 160
 Glu Asn Val Lys Val Thr Trp Ser Arg Glu Ser Gly Gly Pro Val Asn
 165 170 175
 Pro Ser Ser Leu Val Val Lys Glu Gln Tyr Asn Gly Thr Phe Thr Val
 180 185 190
 Thr Ser His Leu Pro Val Asn Thr Asp Asp Trp Ile Glu Gly Asp Thr
 195 200 205
 Tyr Thr Cys Arg Leu Glu Ser Pro Asp Met Pro Val Pro Leu Ile Arg
 210 215 220
 Thr Ile Ser Lys Ala Pro Gly Lys Arg Leu Ala Pro Glu Val Tyr Met
 225 230 235 240
 Leu Pro Pro Ser Pro Glu Glu Thr Gly Thr Thr Arg Thr Val Thr Cys
 245 250 255
 Leu Ile Arg Gly Phe Tyr Pro Ser Glu Ile Ser Val Gln Trp Leu Phe
 260 265 270
 Asn Asn Glu Glu Asp His Thr Gly His His Thr Thr Thr Arg Pro Gln
 275 280 285
 Lys Asp His Gly Thr Asp Pro Ser Phe Phe Leu Tyr Ser Arg Met Leu
 290 295 300
 Val Asn Lys Ser Ile Trp Glu Lys Gly Asn Leu Val Thr Cys Arg Val
 305 310 315 320
 Val His Glu Ala Leu Pro Gly Ser Arg Thr Leu Glu Lys Ser Leu His
 325 330 335
 Tyr Ser Ala Gly Asn
 340

<210> 4
 <211> 341
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetically generated proteins

<400> 4

Glu Phe His His His His His His Thr Leu Ser Leu Pro Glu Ser Gly
 1 5 10 15
 Pro Val Thr Ile Ile Pro Pro Thr Val Lys Leu Phe His Ser Ser Cys
 20 25 30
 Asp Pro Arg Gly Asp Ala His Ser Thr Ile Gln Leu Leu Cys Leu Val
 35 40 45
 Ser Gly Phe Ser Pro Ala Lys Val His Val Thr Trp Leu Val Asp Gly
 50 55 60
 Gln Glu Ala Glu Asn Leu Phe Pro Tyr Thr Thr Arg Pro Lys Arg Glu
 65 70 75 80
 Gly Gly Gln Thr Phe Ser Leu Gln Ser Glu Val Asn Ile Thr Gln Gly
 85 90 95
 Gln Trp Met Ser Ser Asn Thr Tyr Thr Cys His Val Lys His Asn Gly
 100 105 110
 Ser Ile Phe Glu Asp Ser Ser Arg Arg Cys Ser Asp Asp Glu Pro Arg
 115 120 125
 Gly Val Ile Thr Tyr Leu Ile Pro Pro Ser Pro Leu Asp Leu Tyr Glu
 130 135 140
 Asn Gly Thr Pro Lys Leu Thr Cys Leu Val Leu Asp Leu Glu Ser Glu
 145 150 155 160
 Glu Asn Ile Thr Val Thr Trp Val Arg Glu Arg Lys Lys Ser Ile Gly
 165 170 175
 Ser Ala Ser Gln Arg Ser Thr Lys His His His Ala Thr Thr Ser Ile
 180 185 190
 Thr Ser Ile Leu Pro Val Asp Ala Lys Asp Trp Ile Glu Gly Glu Gly
 195 200 205
 Tyr Gln Cys Arg Val Asp His Pro His Phe Pro Lys Pro Ile Val Arg
 210 215 220
 Ser Ile Thr Lys Leu Pro Gly Lys Arg Leu Ala Pro Glu Val Tyr Met
 225 230 235 240
 Leu Pro Pro Ser Pro Glu Glu Thr Gly Thr Thr Arg Thr Val Thr Cys
 245 250 255
 Leu Ile Arg Gly Phe Tyr Pro Ser Glu Ile Ser Val Gln Trp Leu Pro
 260 265 270
 Asn Asn Glu Asp His Thr Gly His His Thr Thr Thr Arg Pro Gln
 275 280 285
 Lys Asp His Gly Thr Asp Pro Ser Phe Phe Leu Tyr Ser Arg Met Leu
 290 295 300
 Val Asn Lys Ser Ile Trp Glu Lys Gly Asn Leu Val Thr Cys Arg Val
 305 310 315 320
 Val His Glu Ala Leu Pro Gly Ser Arg Thr Leu Glu Lys Ser Leu His
 325 330 335
 Tyr Ser Ala Gly Asn
 340

<210> 5

<211> 342

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetically generated proteins

<400> 5

Glu Phe His His His His His His Thr Leu Ser Leu Pro Glu Ser Gly
 1 5 10 15
 Pro Val Thr Ile Ile Pro Pro Thr Val Lys Leu Phe His Ser Ser Cys
 20 25 30
 Asp Pro Arg Gly Asp Ala His S r Thr Ile Gln Leu Leu Cys Leu Val
 35 40 45

Ser Gly Phe Ser Pro Ala Lys Val His Val Thr Trp Leu Val Asp Gly
 50 55 60
 Gln Glu Ala Glu Asn Leu Phe Pro Tyr Thr Thr Arg Pro Lys Arg Glu
 65 70 75 80
 Gly Gly Gln Thr Phe Ser Leu Gln Ser Glu Val Asn Ile Thr Gln Gly
 85 90 95
 Gln Trp Met Ser Ser Asn Thr Tyr Thr Cys His Val Lys His Asn Gly
 100 105 110
 Ser Ile Phe Glu Asp Ser Ser Arg Arg Cys Ser Asp Asp Glu Pro Arg
 115 120 125
 Gly Val Ile Thr Tyr Leu Ile Pro Pro Ser Pro Leu Asp Leu Tyr Glu
 130 135 140
 Asn Gly Thr Pro Lys Leu Thr Cys Leu Val Leu Asp Leu Glu Ser Glu
 145 150 155 160
 Glu Asn Ile Thr Val Thr Trp Val Arg Glu Arg Lys Lys Ser Ile Gly
 165 170 175
 Ser Ala Arg Ser Leu Val Val Lys Glu Gln Tyr Asn Gly Thr Phe Thr
 180 185 190
 Val Thr Ser His Leu Pro Val Asn Thr Asp Asp Trp Ile Glu Gly Asp
 195 200 205
 Thr Tyr Thr Cys Arg Leu Glu Ser Pro Asp Met Pro Tyr Pro Leu Ile
 210 215 220
 Arg Thr Ile Ser Lys Ala Pro Gly Lys Arg Leu Ala Pro Glu Val Tyr
 225 230 235 240
 Met Leu Pro Pro Ser Pro Glu Glu Thr Gly Thr Thr Arg Thr Val Thr
 245 250 255
 Cys Leu Ile Arg Gly Phe Tyr Pro Ser Glu Ile Ser Val Gln Trp Leu
 260 265 270
 Pro Asn Asn Glu Glu Asp His Thr Gly His His Thr Thr Thr Arg Pro
 275 280 285
 Gln Lys Asp His Gly Thr Asp Pro Ser Phe Phe Leu Tyr Ser Arg Met
 290 295 300
 Leu Val Asn Lys Ser Ile Trp Glu Lys Gly Asn Leu Val Thr Cys Arg
 305 310 315 320
 Val Val His Glu Ala Leu Pro Gly Ser Arg Thr Leu Glu Lys Ser Leu
 325 330 335
 His Tyr Ser Ala Gly Asn
 340

<210> 6
 <211> 341
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetically generated proteins

<400> 6
 Glu Phe His His His His His Thr Leu Ser Leu Pro Glu Ser Gly
 1 5 10 15
 Pro Val Thr Ile Ile Pro Pro Thr Val Lys Leu Phe His Ser Ser Cys
 20 25 30
 Asp Pro Arg Gly Asp Ala His Ser Thr Ile Gln Leu Leu Cys Leu Val
 35 40 45
 Ser Gly Phe Ser Pro Ala Lys Val His Val Thr Trp Leu Val Asp Gly
 50 55 60
 Gln Glu Ala Glu Asn Leu Phe Pro Tyr Thr Thr Arg Pro Lys Arg Glu
 65 70 75 80
 Gly Gly Gln Thr Phe Ser Leu Gln Ser Glu Val Asn Ile Thr Gln Gly
 85 90 95
 Gln Trp Met Ser Ser Asn Thr Tyr Thr Cys His Val Lys His Asn Gly
 100 105 110

Ser Ile Phe Glu Asp Ser Ser Arg Arg Cys Pro Asp His Glu Pro Arg
 115 120 125
 Gly Val Ile Thr Tyr Leu Ile Pro Pro Ser Pro Leu Asp Leu Tyr Gln
 130 135 140
 Asn Gly Ala Pro Lys Leu Thr Cys Leu Val Val Asp Leu Glu Ser Glu
 145 150 155 160
 Lys Asn Val Asn Val Thr Trp Asn Gln Glu Lys Lys Thr Ser Val Asn
 165 170 175
 Ala Ser Gln Trp Tyr Thr Lys His His Asn Asn Ala Thr Thr Ser Ile
 180 185 190
 Thr Ser Ile Leu Pro Val Val Ala Lys Asp Trp Ile Glu Gly Tyr Gly
 195 200 205
 Tyr Gln Cys Ile Val Asp His Pro Asp Phe Pro Lys Pro Ile Val Arg
 210 215 220
 Ser Ile Thr Lys Leu Pro Gly Lys Arg Leu Ala Pro Glu Val Tyr Met
 225 230 235 240
 Leu Pro Pro Ser Pro Glu Glu Thr Gly Thr Thr Arg Thr Val Thr Cys
 245 250 255
 Leu Ile Arg Gly Phe Tyr Pro Ser Glu Ile Ser Val Gln Trp Leu Pro
 260 265 270
 Asn Asn Glu Glu Asp His Thr Gly His His Thr Thr Thr Arg Pro Gln
 275 280 285
 Lys Asp His Gly Thr Asp Pro Ser Phe Phe Leu Tyr Ser Arg Met Leu
 290 295 300
 Val Asn Lys Ser Ile Trp Glu Lys Gly Asn Leu Val Thr Cys Arg Val
 305 310 315 320
 Val His Glu Ala Leu Pro Gly Ser Arg Thr Leu Glu Lys Ser Leu His
 325 330 335
 Tyr Ser Ala Gly Asn
 340

<210> 7
 <211> 343
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetically generated proteins

<400> 7
 Glu Phe His His His His His His Thr Glu Val Tyr Ser Asp Ser Ser
 1 5 10 15
 Lys Asp Pro Ile Pro Pro Thr Val Lys Leu Leu His Ser Ser Cys Asp
 20 25 30
 Pro Arg Gly Asp Ser Gln Ala Ser Ile Glu Leu Leu Cys Leu Ile Thr
 35 40 45
 Gly Tyr Ser Pro Ala Gly Ile Gln Val Asp Trp Leu Val Asp Gly Gln
 50 55 60
 Lys Ala Glu Asn Leu Phe Pro Tyr Thr Ala Pro Pro Lys Arg Glu Gly
 65 70 75 80
 Asn Arg Ser Phe Ser Ser His Ser Glu Val Asn Ile Thr Gln Asp Gln
 85 90 95
 Trp Leu Ser Gly Lys Thr Phe Thr Cys Gln Val Thr His Leu Ala Asp
 100 105 110
 Lys Lys Thr Tyr Gln Asp Ser Ala Pro Lys Cys Ala Asp Ser Asp Pro
 115 120 125
 Arg Gly Ile Thr Val Phe Ile Thr Pro Pro Ser Pro Thr Asp Leu Tyr
 130 135 140
 Ile Ser Lys Thr Pro Lys Leu Thr Cys Leu Ile Ile Asp Leu Val Ser
 145 150 155 160
 Thr Glu Gly Met Glu Val Thr Trp Ser Arg Glu Ser Gly Thr Pro Leu
 165 170 175

Ser Ala Glu Ser Phe Glu Glu Gln Lys Gln Phe Asn Gly Thr Met Ser
 180 185 190
 Phe Ile Ser Thr Val Pro Val Asn Ile Gln Asp Trp Asn Arg Gly Glu
 195 200 205
 Ser Tyr Thr Cys Pro Val Ala His Pro Asp Leu Pro Ser Pro Ile Ile
 210 215 220
 Lys Thr Val Thr Lys Leu Pro Gly Lys Pro Leu Ala Pro Glu Val Tyr
 225 230 235 240
 Ala Phe Pro Pro His Gln Ala Glu Val Ser His Gly Ala Ser Leu Ser
 245 250 255
 Leu Thr Cys Leu Ile Pro Gly Phe Tyr Pro Glu Asn Ile Ser Val Arg
 260 265 270
 Trp Leu Leu Asp Asn Lys Pro Leu Pro Thr Glu His Tyr Arg Thr Thr
 275 280 285
 Lys Pro Leu Lys Asp Gln Gly Pro Asp Pro Ala Tyr Phe Leu Tyr Ser
 290 295 300
 Pro Leu Ala Val Asn Lys Ser Thr Trp Glu Gln Gly Asn Val Tyr Thr
 305 310 315 320
 Cys Gln Val Val His Glu Ala Leu Pro Ser Arg Asn Thr Glu Arg Lys
 325 330 335
 Phe Gln His Thr Ser Gly Asn
 340

<210> 8
 <211> 342
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetically generated proteins

<400> 8
 Glu Phe His His His His His His Thr Leu Ser Leu Pro Glu Ser Gly
 1 5 10 15
 Pro Val Thr Ile Ile Pro Pro Thr Val Lys Leu Phe His Ser Ser Cys
 20 25 30
 Asp Pro Arg Gly Asp Ala His Ser Thr Ile Gln Leu Leu Cys Leu Val
 35 40 45
 Ser Gly Phe Ser Pro Ala Lys Val His Val Thr Trp Leu Val Asp Gly
 50 55 60
 Gln Glu Ala Glu Asn Leu Phe Pro Tyr Thr Thr Arg Pro Lys Arg Glu
 65 70 75 80
 Gly Gly Gln Thr Phe Ser Leu Gln Ser Glu Val Asn Ile Thr Gln Gly
 85 90 95
 Gln Trp Met Ser Ser Asn Thr Tyr Thr Cys His Val Lys His Asn Gly
 100 105 110
 Ser Ile Phe Glu Asp Ser Ser Arg Lys Cys Ala Asp Ser Asn Pro Arg
 115 120 125
 Gly Val Ser Ala Tyr Leu Ser Arg Pro Ser Pro Phe Asp Leu Phe Ile
 130 135 140
 Arg Lys Ser Pro Thr Ile Thr Cys Leu Val Val Asp Leu Ala Pro Ser
 145 150 155 160
 Lys Gly Thr Val Asn Leu Thr Trp Ser Arg Ala Ser Gly Lys Pro Val
 165 170 175
 Asn His Ser Thr Arg Lys Glu Glu Lys Gln Arg Asn Gly Thr Leu Thr
 180 185 190
 Val Thr Ser Thr Leu Pro Val Gly Thr Arg Asp Trp Ile Glu Gly Glu
 195 200 205
 Thr Tyr Gln Cys Arg Val Thr His Pro His Leu Pro Arg Ala Leu Met
 210 215 220
 Arg Ser Thr Thr Lys Leu Pro Gly Lys Arg Leu Ala Pro Glu Val Tyr
 225 230 235 240

<213> Artificial Sequence

<223> Synthetically generated proteins

Glu 1	Phe	His	His	His 5	His	His	His	Thr	Leu 10	Ser	Leu	Pro	Glu	Ser 15	Gly
Pro	Val	Thr	Ile	Ile 20	Pro	Pro	Thr	Val 25	Lys	Leu	Phe	His	Ser 30	Ser	Cys
Asp	Pro	Arg 35	Gly	Asp	Ala	His	Ser 40	Thr	Ile	Gln	Leu	Leu 45	Cys	Leu	Val
Ser	Gly 50	Phe	Ser	Pro	Ala	Lys 55	Val	His	Val	Thr	Trp 60	Leu	Val	Asp	Gly
Gln 65	Glu	Ala	Glu	Asn 70	Leu	Phe	Pro	Tyr	Thr 75	Thr	Arg	Pro	Lys	Arg	Glu 80
Gly	Gly	Gln	Thr	Phe 85	Ser	Leu	Gln	Ser	Glu 90	Val	Asn	Ile	Thr	Gln 95	Gly
Gln	Trp	Met	Ser 100	Ser	Asn	Thr	Tyr	Thr 105	Cys	His	Val	Lys	His 110	Asn	Gly
Ser	Ile	Phe 115	Glu	Asp	Ser	Ser	Arg 120	Arg	Cys	Ser	Asp	Asp 125	Glu	Pro	Arg
Gly	Val 130	Ile	Thr	Tyr	Leu	Ile 135	Pro	Pro	Ser	Pro	Leu 140	Asp	Leu	Tyr	Glu
Asn 145	Gly	Thr	Pro	Lys 150	Leu	Thr	Cys	Leu	Val	Leu 155	Asp	Leu	Glu	Ser	Glu 160
Glu	Asn	Ile	Thr	Val 165	Thr	Trp	Val	Arg	Glu 170	Arg	Lys	Lys	Ser	Ile 175	Gly
Ser	Ala	Ser	Gln 180	Arg	Ser	Thr	Lys	His 185	His	Asn	Ala	Thr	Thr 190	Ser	Ile
Thr	Ser	Ile 195	Leu	Pro	Val	Asp	Ala 200	Lys	Asp	Trp	Ile	Glu 205	Gly	Glu	Gly
Tyr	Gln 210	Cys	Arg	Val	Asp	His 215	Pro	His	Phe	Pro	Lys 220	Pro	Ile	Val	Arg
Ser 225	Ile	Thr	Lys	Leu	Pro 230	Gly	Lys	Arg	Leu	Ala 235	Pro	Glu	Val	Tyr	Met 240
Leu	Pro	Pro	Ser	Pro 245	Glu	Glu	Thr	Gly	Thr 250	Thr	Arg	Thr	Val	Thr 255	Cys
Leu	Ile	Arg	Gly 260	Phe	Tyr	Pro	Ser	Glu 265	Ile	Ser	Val	Gln	Trp 270	Leu	Phe
Asn	Asn 275	Glu	Glu	Asp	His	Thr	Gly 280	His	His	Thr	Thr	Thr 285	Arg	Pro	Gln
Lys	Asp 290	His	Gly	Thr	Asp	Pro 295	Ser	Phe	Phe	Leu	Tyr 300	Ser	Arg	Met	Leu

Val Asn Lys Ser Ile Trp Glu Lys Gly Asn Leu Val Thr Cys Arg Val
 305 310 315 320
 Val His Glu Ala Leu Pro Gly Ser Arg Thr Leu Glu Lys Ser Leu His
 325 330 335
 Tyr Ser Ala Gly Asn
 340

<210> 10
 <211> 345
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetically generated proteins

<400> 10
 Glu Phe His His His His His His Thr Leu Ser Leu Pro Glu Ser Gly
 1 5 10 15
 Pro Val Thr Ile Ile Pro Pro Thr Val Lys Leu Phe His Ser Ser Cys
 20 25 30
 Asp Pro Arg Gly Asp Ala His Ser Thr Ile Gln Leu Leu Cys Leu Val
 35 40 45
 Ser Gly Phe Ser Pro Ala Lys Val His Val Thr Trp Leu Val Asp Gly
 50 55 60
 Gln Glu Ala Glu Asn Leu Phe Pro Tyr Thr Thr Arg Pro Lys Arg Glu
 65 70 75 80
 Gly Gly Gln Thr Phe Ser Leu Gln Ser Glu Val Asn Ile Thr Gln Gly
 85 90 95
 Gln Trp Met Ser Ser Asn Thr Tyr Thr Cys His Val Lys His Asn Gly
 100 105 110
 Ser Ile Phe Glu Asp Ser Ser Arg Cys Thr Ala Glu Ser Glu Pro
 115 120 125
 Arg Gly Val Ser Ala Tyr Leu Ser Pro Pro Thr Pro Leu Asp Leu Tyr
 130 135 140
 Val His Lys Ser Pro Lys Leu Thr Cys Leu Val Val Asp Leu Ala Ser
 145 150 155 160
 Ser Glu Asn Val Asn Leu Leu Trp Ser Arg Glu Asn Lys Gly Gly Val
 165 170 175
 Ile Leu Pro Pro Pro Gly Pro Pro Val Ile Lys Pro Gln Phe Asn Gly
 180 185 190
 Thr Phe Ser Ala Thr Ser Thr Leu Pro Val Asn Val Ser Asp Trp Ile
 195 200 205
 Glu Gly Glu Thr Tyr Tyr Cys Asn Val Thr His Pro Asp Leu Pro Lys
 210 215 220
 Pro Ile Leu Arg Ser Ile Ser Lys Leu Pro Gly Lys Arg Leu Ala Pro
 225 230 235 240
 Glu Val Tyr Met Leu Pro Pro Ser Pro Glu Glu Thr Gly Thr Thr Arg
 245 250 255
 Thr Val Thr Cys Leu Ile Arg Gly Phe Tyr Pro Ser Glu Ile Ser Val
 260 265 270
 Gln Trp Leu Phe Asn Asn Glu Glu Asp His Thr Gly His His Thr Thr
 275 280 285
 Thr Arg Pro Gln Lys Asp His Gly Thr Asp Pro Ser Phe Phe Leu Tyr
 290 295 300
 Ser Arg Met Leu Val Asn Lys Ser Ile Trp Glu Lys Gly Asn Leu Val
 305 310 315 320
 Thr Cys Arg Val Val His Glu Ala Leu Pro Gly Ser Arg Thr Leu Glu
 325 330 335
 Lys Ser Leu His Tyr Ser Ala Gly Asn
 340 345

<210> 11
 <211> 341
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetically generated proteins

<400> 11
 Glu Phe His His His His His His Thr Leu Ser Leu Pro Glu Ser Gly
 1 5 10 15
 Pro Val Thr Ile Ile Pro Pro Thr Val Lys Leu Phe His Ser Ser Cys
 20 25 30
 Asp Pro Arg Gly Asp Ala His Ser Thr Ile Gln Leu Leu Cys Leu Val
 35 40 45
 Ser Gly Phe Ser Pro Ala Lys Val His Val Thr Trp Leu Val Asp Gly
 50 55 60
 Gln Glu Ala Glu Asn Leu Phe Pro Tyr Thr Thr Arg Pro Lys Arg Glu
 65 70 75 80
 Gly Gly Gln Thr Phe Ser Leu Gln Ser Glu Val Asn Ile Thr Gln Gly
 85 90 95
 Gln Trp Met Ser Ser Asn Thr Tyr Thr Cys His Val Lys His Asn Gly
 100 105 110
 Ser Ile Phe Glu Asp Ser Ser Arg Lys Cys Ser Glu Ser Asp Pro Arg
 115 120 125
 Gly Val Thr Ser Tyr Leu Ser Pro Pro Ser Pro Leu Asp Leu Tyr Val
 130 135 140
 His Lys Ala Pro Lys Ile Thr Cys Leu Val Val Asp Leu Ala Thr Met
 145 150 155 160
 Glu Gly Met Asn Leu Thr Trp Tyr Arg Glu Ser Lys Glu Pro Val Asn
 165 170 175
 Pro Gly Pro Leu Asn Lys Lys Asp His Phe Asn Gly Thr Ile Thr Val
 180 185 190
 Thr Ser Thr Leu Pro Val Asn Thr Asn Asp Trp Ile Glu Gly Glu Thr
 195 200 205
 Tyr Tyr Cys Arg Val Thr His Pro His Leu Pro Lys Asp Ile Val Arg
 210 215 220
 Ser Ile Ala Lys Leu Pro Gly Lys Arg Leu Ala Pro Glu Val Tyr Met
 225 230 235 240
 Leu Pro Pro Ser Pro Glu Glu Thr Gly Thr Thr Arg Thr Val Thr Cys
 245 250 255
 Leu Ile Arg Gly Phe Tyr Pro Ser Glu Ile Ser Val Gln Trp Leu Phe
 260 265 270
 Asn Asn Glu Glu Asp His Thr Gly His His Thr Thr Thr Arg Pro Gln
 275 280 285
 Lys Asp His Gly Thr Asp Pro Ser Phe Phe Leu Tyr Ser Arg Met Leu
 290 295 300
 Val Asn Lys Ser Ile Trp Glu Lys Gly Asn Leu Val Thr Cys Arg Val
 305 310 315 320
 Val His Glu Ala Leu Pro Gly Ser Arg Thr Leu Glu Lys Ser Leu His
 325 330 335
 Tyr Ser Ala Gly Asn
 340